

THE CLAIMS

The claims of the application, as amended, are:

1. (Currently Amended) ~~A temperature-limiting device (14) for an electric heater (2), the heater (2) being~~ An electric heater (2) adapted for location behind a surface (4) to be heated and comprising a dish-like support (6) having therein at least one electric heating element (12) having a first terminal region (12A) and a second terminal region (12B), and a temperature-limiting device (14) having a thermally responsive bimetallic means (22) provided in a housing (16), the device being characterised by thermally responsive bimetallic means (22) provided in a housing (16); the housing (16) being adapted to be supported at a peripheral region of the heater (2), at least partially externally of the dish-like support (6), the thermally responsive bimetallic means (22) being adapted to be thermally coupled with the heater (2) to sense heat generated therein by the at least one heating element (12) and to respond at a predetermined temperature to operate at least one switch means (18) located in the housing (16), the housing (16) having a first side (32) and a second side (38) opposite to each other provided with a first electrically conductive element (34) and a second electrically conductive element (40) accessible at the sides (32, 38) of the housing (16), externally of the dish-like support (6), ~~for electrical connection to the first and second terminal regions (12A, 12B) respectively of the at least one~~

~~electric heating element (12)~~ wherein the first and second terminal regions (12A, 12B) respectively of the at least one electric heating element (12) are electrically connected to the first electrically conductive element (34) and the second electrically conductive element (40).

2. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 1, ~~characterised in that~~ wherein electrical connection of the first and second electrically conductive elements (34, 40) to the respective first and second terminal regions (12A, 12B) of the at least one heating element (12) is by means of direct contact between the electrically conductive elements (34, 40) and the terminal regions (12A, 12B).

3. (Currently Amended) ~~A device as claimed in claim 1 or 2, characterised in that~~ An electric heater as claimed in claim 1, wherein the first and second terminal regions (12A, 12B) of the at least one heating element (12) extend through apertures (48, 50) in the dish-like support (6) for electrical connection to the first and second electrically conductive elements (34, 40).

4. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein the first and second terminal regions (12A, 12B) of the at least one heating element (12) are electrically connected to the first and second electrically conductive elements (34, 40) by welding.

5. (Currently Amended) ~~A device as claimed in any preceding claim,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein at least one of
the first and second electrically conductive elements (34, 40) is provided with a
portion (36, 42) selected from a strip-like portion and a flanged portion for securing
to at least one of the first and second terminal regions (12A, 12B) of the at least one
heating element (12).

6. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 5,
~~characterised in that~~ wherein the strip-like portion has a plane thereof disposed in
any desired orientation from a vertical plane to a horizontal plane.

7. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 5,
~~characterised in that~~ wherein the flanged portion has a wall portion with a dependant
laterally-directed ledge portion (36A, 42A).

8. (Currently Amended) ~~A device as claimed in any one of claims 5 to 7,~~
~~characterised in that~~ An electric heater as claimed in claim 5, wherein at least one of
the first and second electrically conductive elements (34, 40) has the portion (36, 42)
extending in a direction towards the heater (2) and at a predetermined angle relative
to a rim of the dish-like support (6).

9. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 1, ~~characterised in that~~ wherein one of the first and second electrically conductive elements (34, 40) is arranged for electrical connection to a terminal region selected from the respective first and second terminal regions (12A, 12B) of the at least one heating element (12) by way of at least one electrically conductive link (52).

10. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 1, ~~characterised in that~~ wherein both of the first and second electrically conductive elements (34, 40) are arranged for electrical connection to the respective first and second terminal regions (12A, 12B) of the at least one heating element (12) by way of at least one electrically conductive link (52).

11. (Currently Amended) ~~A device as claimed in claim 9 or 10, characterised in that~~ An electric heater as claimed in claim 9, wherein the at least one electrically conductive link (52) is of a form selected from wire and strip form.

12. (Currently Amended) ~~A device as claimed in claim 9, 10 or 11, characterised in that~~ An electric heater as claimed in claim 9, wherein the at least one electrically conductive link (52) extends through apertures (48, 50) in the dish-like support (6) for electrical connection to the first and second electrically conductive elements (34, 40).

13. (Currently Amended) ~~A device as claimed in any one of claims 9 to 12,~~
~~characterised in that~~ An electric heater as claimed in claim 9, wherein the at least one
electrically conductive link (52) is electrically connected to the first and second
electrically conductive elements (34, 40) by welding.

14. (Currently Amended) ~~A device as claimed in any one of claims 9 to 13,~~
~~characterised in that~~ An electric heater as claimed in claim 9, wherein at least one of
the first and second electrically conductive elements (34, 40) is provided with a
portion (36, 42) selected from a strip-like portion and a flanged portion for securing
to the at least one electrically conductive link (52).

15. (Currently Amended) ~~A device~~ An electric heater as claimed in claim
14 ~~characterised in that,~~ wherein the strip-like portion has a plane thereof
disposed in any desired orientation from a vertical plane to a horizontal plane.

16. (Currently Amended) [~~A device~~] An electric heater as claimed in claim
13, ~~characterised in that~~ 14, wherein the flanged portion has a wall portion with a
dependant laterally-directed ledge portion (36A, 42A).

17. (Currently Amended) ~~A device as claimed in any one of claims 9 to 16,~~
~~characterised in that~~ An electric heater as claimed in claim 9, wherein at least one of
the first and second electrically conductive elements (34, 40) has the portion (36, 42)

extending in a direction towards the heater (2) and at a predetermined angle relative to a rim of the dish-like support (6).

18. (Currently Amended) ~~A device as claimed in any preceding claim,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein the first and second electrically conductive elements (34, 40) extend laterally at the first and second opposite sides (32, 38) of the housing (16).

19. (Currently Amended) ~~A device as claimed in any preceding claim,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein the at least one electric heating element is of corrugated ribbon form (12) supported upstanding on edge in the dish-like support (6).

20. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 19
~~characterised in that,~~ wherein the first and second terminal regions (12A, 12B) of the at least one electric heating element of corrugated ribbon form (12) are connected directly to the first and second electrically conductive elements (34, 40) and have an orientation substantially the same as that of the at least one electric heating element (12) as supported in the dish-like support (6).

21. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 19,
~~characterised in that~~ wherein the first and second terminal regions (12A, 12B) of the

at least one electric heating element of corrugated ribbon form (12) are connected directly to the first and second electrically conductive elements (34, 40) and are twisted through an appropriate angle for connection to the first and second electrically conductive elements (34, 40).

22. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein the first and second electrically conductive elements (34, 40) comprise metal.

23. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 22, ~~characterised in that~~ wherein the metal is selected from stainless steel and nickel-plated steel.

24. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein the first electrically conductive element is electrically connected to the at least one switch means (18) in the housing (16) and the second electrically conductive element is adapted for electrical connection to an external lead wire.

25. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein at least a third

electrically conductive terminal (24) is provided at a side selected from the first and second sides (32, 38) of the housing (16).

26. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 25, ~~characterised in that~~ wherein the at least third electrically conductive terminal (24) is arranged for electrical connection to the at least one switch means (18) in the housing (16).

27. (Currently Amended) ~~A device as claimed in claim 25 or 26, characterised in that~~ An electric heater as claimed in claim 25 wherein the at least third electrically conductive terminal (24) is arranged for electrical connection to an external lead wire.

28. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein the housing (16) of the temperature-limiting device (14) comprises ceramic material.

29. (Currently Amended) ~~A device as claimed in any preceding claim, characterised in that~~ An electric heater as claimed in claim 1, wherein the thermally responsive bimetallic means (22) is thermally coupled with the heater (2) by means of an elongate thermally conductive member (26) which is adapted to extend from the housing (16) at least partly across the heater (2) and overlying the at least one heating element (12).

30. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 29, characterised in that wherein the elongate member (26) is of metal.

31. (Currently Amended) ~~A device as claimed in claim 29 or 30, characterised in that~~ An electric heater as claimed in claim 29, wherein the elongate member (26) is of a form selected from rod, beam and tube form.

32. (Currently Amended) ~~A device as claimed in any one of claims 29 to 31, characterised in that~~ An electric heater as claimed in claim 29, wherein the elongate member (26) has an end (28) thereof in direct contact with the bimetallic means (22).

33. (Currently Amended) ~~A device as claimed in any one of claims 29 to 31, characterised in that~~ An electric heater as claimed in claim 29, wherein the elongate member (26) has an end (28) thereof in indirect contact with the bimetallic means (22).

34. (Currently Amended) ~~A device as claimed in any one of claims 1 to 28, characterised in that~~ An electric heater as claimed in claim 1, wherein the housing (16) has a front face (30) thereof adapted to be exposed to thermal radiation from the heater (2), through an aperture (54) provided in a rim of the dish-like support (6), the bimetallic means (22) being adapted to be directly exposed to the thermal radiation from the heater (2).

35. (Currently Amended) ~~A device as claimed in any one of claims 1 to 28,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein the housing
(16) has a front face (30) thereof adapted to be exposed to thermal radiation from the
heater (2), through an aperture (54) provided in a rim of the dish-like support (6), the
bimetallic means (22) being in thermo-conducting relationship with thermally
conducting means directly exposed, at the front face (30) of the housing (16), to the
thermal radiation from the heater (2).

36. (Currently Amended) ~~A device as claimed in claim 34 or 35, characterised~~
~~in that]~~ An electric heater as claimed in claim 34, wherein the housing (16) is adapted
to be partly inserted into the heater (2) through the aperture (54) provided in the rim
of the dish-like support (6).

37. (Currently Amended) ~~A device as claimed in any preceding claim,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein the bimetallic
means (22) comprises a snap disc (22), operating at a predetermined temperature to
displace electric contacts of the at least one switch means (18).

38. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 37,
~~characterised in that~~ wherein the snap disc (22) operates to displace the electric
contacts by way of an intermediate member (24).

39. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 38, ~~characterised in that~~ wherein the intermediate member (24) is of rod form.

40. (Currently Amended) ~~A device as claimed in any one of claims 1 to 36,~~
~~characterised in that~~ An electric heater as claimed in claim 1, wherein the bimetallic means (22) comprises a member which undergoes increasing deflection with increasing temperature and operates to cause displacement of electric contacts of the at least one switch means (18) at a predetermined temperature.

41. (Currently Amended) ~~A device~~ An electric heater as claimed in claim 40, ~~characterised in that~~ wherein the member which undergoes increasing deflection with increasing temperature is of strip form.

42. (Currently Amended) ~~A device as claimed in claim 40 or 41, characterised in that~~ An electric heater as claimed in claim 40, wherein the electric contacts are incorporated in a snap switch arrangement.

43. (Cancelled)

44. (New) An electric heater as claimed in claim 35, wherein the housing (16) is adapted to be partly inserted into the heater (2) through the aperture (54) provided in the rim of the dish-like support (6).